

**Board of Forestry and Fire Protection**  
**Effectiveness Monitoring Committee (EMC)**

**Meeting Notes**

**February 7, 2018**

**Redding Electric Utility Office**  
**Redding, California**

**1. Participants (17):** **Members**--Dr. Russ Henly (Co-Chair), Sue Husari (Co-Chair), Sal Chinnici, Tom Engstrom, Dr. Matt O'Connor, Matt House, Clarence Hostler, Drew Coe, Jim Burke, and Justin LaNier.

**Staff**--Matt Dias, Eliana Camargo, and Pete Cafferata.

Participants--Dave Fowler, Will Olsen, John Hardy, and Steve Baumgartner.

**Webinar participants (5):** George Gentry, Dr. Chris Surfleet, Dr. Robb York, Dr. John Battles, and Caroline Petersen.

**2. Report by the Co-Chairs**

- Russ Henly reported on the following topics:
  - The Forest Climate Action Team (FCAT) requested minor changes to the California Forest Carbon Plan at their January 25<sup>th</sup> meeting, which are currently being made. The expectation is that the final version will be available to the public later in February.
  - The California Natural Resources Agency has issued a report in January titled "Safeguarding California Plan: 2018 Update", which documents what state agencies are doing/will do to adapt to climate change impacts; the report is posted at:  
<http://resources.ca.gov/docs/climate/safeguarding/update2018/safeguarding-california-plan-2018-update.pdf>
  - The Little Hoover Commission released a report on February 5<sup>th</sup> titled "Fire on the Mountain: Rethinking Forest Management in the Sierra Nevada." The Commission recommends major changes in California forest management practices to address tree mortality, fuels loading, forest carbon and greenhouse gases, climate change, and more intense wildfires; see:  
<http://www.lhc.ca.gov/sites/lhc.ca.gov/files/Reports/242/Report242.pdf>
  - Governor Brown's State of the State address on January 25<sup>th</sup> included proposing to "convene a task force composed of scientists and knowledgeable forest practitioners to review thoroughly the way our forests are managed and suggest ways to reduce the threat of devastating fires." <https://www.gov.ca.gov/2018/01/25/governor-brown-delivers-2018-state-of-the-state-address-california-is-setting-the-pace-for-america/>.
  - AB 1492 updates: There was a presentation to the Board of Forestry and Fire Protection (BOF) on January 24<sup>th</sup> describing the progress made to date on CalTREES, the online timber harvesting permitting system under development. See the PowerPoint presentation at:

[http://bofdata.fire.ca.gov/board\\_business/binder\\_materials/2018/january\\_2018\\_meeting/full/full\\_13\\_presentation\\_update\\_caltrees\\_online\\_timber\\_harvesting\\_permitting\\_system.pdf](http://bofdata.fire.ca.gov/board_business/binder_materials/2018/january_2018_meeting/full/full_13_presentation_update_caltrees_online_timber_harvesting_permitting_system.pdf)

- AB 1492 budget: EMC funding of \$425,000 for future fiscal years is not currently included in the Governor's January 2018 budget. There may still be an opportunity later in the budget process for funding to be extended; the next budget update is scheduled for April 1<sup>st</sup>.

### **3. Presentation on the Little Creek Macroinvertebrate Community Study by John Hardy**

John Hardy provided a PowerPoint presentation used for his Master of Science thesis defense, "Spatiotemporal Variability of a Macroinvertebrate Community in a Small Coastal Stream, Little Creek, Davenport, California." This Cal Poly-San Luis Obispo project was partially funded by a CAL FIRE contract, with a specification to present results to a BOF monitoring committee. The study was designed to analyze the spatiotemporal variability of instream community structure within and among varying habitat types along seven stream reaches in the Little Creek watershed, Swanton Pacific Ranch. The goal was to develop an assessment method to estimate net ecological benefit of riparian treatments in the North Fork Little Creek watershed (i.e., site-specific riparian management). The seven study reaches established were used to improve understanding of relationships between macroinvertebrate community structure and substrate, canopy composition and shading. Macroinvertebrate samples and physical habitat data were collected using a modified version of the Surface Water Ambient Monitoring Program's (SWAMP's) bioassessment protocol. Individual macroinvertebrate specimens were identified to the family level. Sampling events took place in the spring, summer, and fall of 2015 and 2016 (42 sampling events, with 448 individual samples collected).

Results included (1) macroinvertebrate density and biomass being statistically significantly related to study reach and season, (2) EPT (Ephemeroptera, Plecoptera, and Trichoptera) taxa richness (good water quality indicator) being associated with study reach, (3) macroinvertebrate diversity being associated with habitat type, (4) percent shredders and collector-gatherers (macroinvertebrate functional feeding groups) being associated with study reach, (5) percent predators being associated with season, and (6) percent Diptera (poor water quality indicator) being associated with study reach and mean substrate particle size ( $D_{50}$ ). These results reveal that the macroinvertebrate communities in the study reaches are predominantly structured by the availability of detrital-based food resources (allochthonous input derived from outside the system). Stream shading and solar radiation were not found to be significantly associated with any of the measured metrics of community structure due to the small range of canopy conditions observed in the study reaches, making it difficult to predict macroinvertebrate response from riparian canopy treatments based on the collected data. This study does, however, provide comprehensive baseline information regarding the macroinvertebrate communities in Little Creek. Recommendations for additional studies included directly measuring basal energy sources, distribution, and utilization (e.g., litter leaf baskets, Chlorophyll-a concentration, and periphyton standing crop). Additionally, stable isotope analyses can provide the relative importance of autochthonous vs. allochthonous inputs. Mr. Hardy's presentation is posted at:

[http://bofdata.fire.ca.gov/board\\_committees/effectiveness\\_monitoring\\_committee/feb2018mm/3\\_spatiotemporal\\_variability\\_of\\_macroinvertebrate\\_community\\_j\\_hardy\\_thesis.pdf](http://bofdata.fire.ca.gov/board_committees/effectiveness_monitoring_committee/feb2018mm/3_spatiotemporal_variability_of_macroinvertebrate_community_j_hardy_thesis.pdf)

### **4. Updates on Contracting for Projects Approved or Under Consideration by the EMC**

- **EMC-2015-001 (Class II-Large Monitoring)**: Drew Coe stated that the second phase of the Oregon State University (OSU) project, a regional scale study to assess the effectiveness of rule criteria for identifying Class II watercourses susceptible to thermal loading, will be implemented this summer. The first phase of the study documenting the downstream propagation of water temperature from Class II watercourses in contrasting geologies on Jackson Demonstration State Forest (JDSF) and LaTour Demonstration State Forest (LDSF) began in 2017.
- **EMC-2015-002 (FORPRIEM ver. 2.0.) and EMC-2015-004 (Effectiveness of Road Rules in Reducing Hydrologic Connectivity and Significant Sediment Discharge)—Statistical Consultation:** Pete Cafferata summarized a conference call held on February 5<sup>th</sup> with Dr. Ashley Steel and Pat Cunningham, US Forest Service Pacific Northwest Research Station ( PNW), EMC-funded statistical consultants. A two-stage stratification process has been selected for FORPRIEM ver. 2.0. In the first stage, plans will be allocated into three groups (low, moderate, and high erosion potential). Possible variables being considered for this stratification include mean plan slope, mean annual precipitation, drainage density, rock strength, and deep-seated landslide potential. For the second stage, two populations of road segments will be generated, identifying those at highest erosion risk (hillslope gradient, distance to watercourse, etc.). One-half of the road segments will be selected from the high-risk category and one-half from the non-high risk category. **A draft sampling plan will be written and presented to the EMC in the next few months.**
- **EMC-2017-001 (UC Davis Caspar Creek Nutrient Study)**: Pete Cafferata briefly summarized the draft progress report prepared by Dr. Helen Dahlke, MS student Seanna McLaughlin, and Dr. Randy Dahlgren, UC Davis, for the Save the Redwoods League documenting baseline nutrient data collected to date for the four sub-watersheds being studied in the South Fork Caspar Creek watershed. Overall, the selected sub-watersheds have been found to behave hydrologically and biogeochemically in a generally similar manner. Additional sampling points are being added at the outlet of South Fork Caspar Creek and at least one point along the main stem to document nutrient cycling downstream.
- **EMC-2017-002 (Boggs Mountain Demonstration State Forest (BMDSF) Post-Fire Bird Occupancy Study)**: Stacy Stanish presented a poster on the project at the Western Section of The Wildlife Society meeting in Santa Rosa on February 8<sup>th</sup> (see: [http://www.wildlifeprofessional.org/western/tws\\_abstract\\_detail.php?abstractID=2020](http://www.wildlifeprofessional.org/western/tws_abstract_detail.php?abstractID=2020)).
- **EMC-2017-009: Effectiveness of Class II Watercourse and Lake Protection Zone (WLPZ) Forest Practice Rules (FPRs) at Maintaining or Restoring Canopy Closure, Stream Water Temperature, and Primary Productivity**: Drew Coe reported that he has been in communication with Drs. Kevin Bladen and Catalina Segura, OSU, regarding this project. Green Diamond Resource Company (GDRCo) supports hosting the study, testing both FPRs and their aquatic Habitat Conservation Plan prescriptions. Considerable logistical matters remain to be agreed upon, including support for this comprehensive project from the federal agencies. New study elements are also being considered (terrestrial wildlife and amphibian habitat). Mr. Coe and Mr. House will work with project collaborators to develop a more complete project proposal in the next several months, so that the study is ready for consideration by the EMC by the start of new fiscal year. Additionally, BOF Member Mike Miles submitted written comments to the EMC prior to the meeting regarding the necessity and benefits of Class II-large Forest Practice Rule requirements, based on public comment made at the BOF Forest Practice Committee (FPC) meeting held in January. Nine example questions were submitted. **CAL FIRE Watershed Protection Program staff will generate a draft response for EMC review prior to the next meeting regarding which questions can be**

addressed from the existing literature, and which require new research. Upon approval, this response will be provided to Member Miles to submit to the FPC. Matt Dias explained how BOF staff is proposing language to extend the Class II-large 2014 amended method of determination for Class II type for four additional years. These specific Class II-L requirements are set to expire on January 1, 2019.

#### **5. Discussion of Projects Ranked by the EMC and EMC Recommendations for Funding**

Co-Chair Henly summarized how the EMC has seven projects ranked for funding recommendations to the BOF, with \$425,000 available for awarding in fiscal year 2017. Matt Dias explained the parliamentary procedures to produce a clear and transparent funding recommendation process. Co-Chair Husari moved to recommend the EMC allocate up to \$425,000 for previously ranked by the EMC. Member Engstrom seconded the motion. The relative merits of each of the projects were then discussed, particularly in relation to testing FPR effectiveness and the viability of the project with a maximum of two years of funding by the EMC. A friendly amendment was offered by Member Chinnici to clarify that recommended funding (not to exceed) be allocated by project as shown below:

<b>Project Number</b>	<b>Short Project Description</b>	<b>Principle Investigator(s)</b>	<b>Funding Recommendation (not to exceed)</b>
<b>EMC-2016-003</b>	Repeat LiDAR surveys to detect landslides	O'Connor, Coe, Short, Bowers	100,000
<b>EMC-2017-004</b>	Monitoring Class III watercourses	Olsen, Coe, Cafferata, Wagenbrenner	18,930
<b>EMC-2017-006</b>	Tradeoffs between riparian buffers, fire, regeneration	York	114,855
<b>EMC-2017-008</b>	FPRs minimize fir mortality from root diseases	Cobb, Garboletto, Lee	0
<b>EMC-2017-010</b>	Meadow restoration	Surfleet	108,986
<b>EMC-2017-012</b>	Bat study on Demonstration State Forests	Baker	10,991
<b>EMC-2017-007</b>	The life cycle of dead trees and implications for management	Battles	71,238
<b>Total</b>			<b>425,000</b>

Co-Chair Husari and Member Engstrom accepted the amendment.

<b>Roll Call</b>	<b><u>AYE</u></b>	<b><u>NO</u></b>	<b><u>ABSTAIN</u></b>
<b>Henly</b>	<b>X</b>		
<b>Husari</b>	<b>X</b>		
<b>Drury</b>			
<b>Culpepper</b>			
<b>Coe</b>			<b>X</b>
<b>LaNier</b>	<b>X</b>		

Roll Call	<u>AYE</u>	<u>NO</u>	<u>ABSTAIN</u>
Hostler	X		
Short			
Burke	X		
Giusti			
Engstrom	X		
House	X		
Chinnici	X		
O'Connor			X

The motion carried with two abstentions and three members absent.

#### **6. EMC Discussion of Possible Update to EMC Project Review Process**

Co-Chair Husari reported that the EMC Project Review sub-committee is still in the research phase. They have begun researching the issues and receiving legal advice. The sub-committee plans to bring proposals forward to the EMC during the next two meetings.

#### **7. Public Forum** – No public comments.

#### **8. Future EMC Meeting Dates**

Board staff will send out a Doodle poll for the next two meetings, tentatively scheduled for the second or third weeks of March (Sacramento), and the third or fourth weeks of April (Ukiah).

#### **9. Announcements**

CLFA will hold its Spring Workshop titled “Stocking Standards: Past, Present & Future” on March 16<sup>th</sup> in Anderson. The CLFA Annual Meeting will take place on March 17<sup>th</sup>. See:

<http://www.clfa.org/documents/workshops/2018/Spring-Workshop-Annual-Conference-Brochure-March.2018.pdf>

The Oregon Chapter of the American Fisheries Society is holding its 54<sup>th</sup> Annual Meeting in Eugene on March 13-16, 2018. <http://orafs.org/2018-annual-meeting/>

David Roon, OSU, is presenting his GDRCo riparian thinning study results to date (abstract below)

#### **Spatial Patterns of Riparian Shade, Light, and Stream Temperature in Response to Riparian Thinning in Redwood Headwater Streams**

David Roon, Jason Dunham—Oregon State University

Thinning and selective logging are being applied to second-growth forests to accelerate the recovery of late successional forest characteristics (structure and composition). These restoration practices have largely focused on uplands, but now there is interest in applying them in riparian zones. The consequences of these treatments are potentially controversial and not well studied. Part of this controversy stems over concern about cumulative effects of thinning, which involves an understanding of the spatial and temporal dimensions of the issue in whole-stream networks. To address these cumulative effects we are studying experimental riparian thinning treatments in adjacent stream networks and forests managed by the Green Diamond Resource Company and the National Park Service (Redwood National Park) in northern California. Thinning was implemented in multiple locations, allowing us to evaluate effects of these local treatments

in the context of larger stream networks. To track local treatments, we followed a before-after-control-impact approach to quantify spatial and temporal patterns of riparian shade, light, and stream temperatures as possible responses to riparian thinning. To evaluate how the potential effects of these local treatments resonate at broader extents, we have quantified shade, light, and stream temperatures across entire networks. Spatial statistical models were applied to these data to determine the spatial extent to which localized thinning propagated through stream networks. Preliminary results from tracking local treatments indicate an immediate response in stream temperature associated with the reductions in shade and increases in light associated with riparian thinning. At the network extent, this resulted in variable downstream propagation of the effects of upstream thinning. Future study will track how these responses adjust over time. By adopting a multi-scale approach that includes both spatial and temporal components we are better able to understand the cumulative effects of riparian thinning on stream ecosystems.

The 36<sup>th</sup> Annual Salmonid Restoration Conference will be held in Fortuna on April 11-14, 2018. See: <https://www.calsalmon.org/conferences/36th-annual-salmonid-restoration-conference>